

**In the Claims**

1. (Currently amended) A system for optimizing a request-promise workflow between a first entity and a second entity downstream from the first entity, the first entity supplying supplies to the second entity in response to demand for supplies from the second entity, the system being associated with the second entity and comprising one or more software components associated with a second entity and embodied in computer readable media and when executed processing units and one or more memory units collectively operable to:

establish a demand at the second entity for one or more supplies supplied by a by the first entity, the demand for the supplies based at least in part on a demand placed on the second entity by a third entity downstream from the second entity; operable to:

produce the supplies; and

optimize its production of the supplies using a request for the supplies as a constraint to generate a promise for the supplies, the request for the supplies being received from the second entity;

optimize its the second entity's production of the associated with meeting the demand from the third entity to generate a the request for the supplies;

communicate the request for the supplies to the first entity, a system associated with the first entity operable to optimize the first entity's production of the supplies using the request for the supplies as a first constraint to generate a promise for the supplies based on the request for the supplies;

receive a promise the promise for the supplies from the first entity based on the request, the promise for the supplies having been generated according to an optimization of the first entity's production of the supplies using the request for the supplies as a first constraint, the promise for the supplies identifying a culprit as a cause for the promise for the supplies not satisfying the request for the supplies if the promise for the supplies does not satisfy the request for the supplies;

if the promise for the supplies does not satisfy the request for the supplies, generate a second constraint according to the culprit identified in the promise for the supplies; and

if the promise for the supplies does not satisfy the request for the supplies, reoptimize its the second entity's production of the associated with meeting the demand from the third entity

using the second constraint generated according to the culprit identified in the promise for the supplies to generate a new request for the supplies if the promise does not satisfy the request.

2. (Currently amended) The system of Claim 1, wherein the system associated with the first entity is operable to repeat the following until the promise for the supplies satisfies the request for the supplies:

receiving a request for the supplies from the second entity;

reoptimizing its the first entity's production of the supplies using the request for the supplies as a constraint to generate a the promise for the supplies; and

communicating the promise for the supplies to the second entity.

3. (Currently amended) The system of Claim 1, further operable to repeat the following until the promise for the supplies satisfies the request for the supplies:

optimizing its the second entity's production of the associated with meeting the demand from the third entity to generate a request for the supplies;

communicating the request for the supplies to the first entity;

receiving a promise for the supplies from the first entity based on the request for the supplies, the promise for the supplies having been generated according to an optimization of the first entity's production of the supplies using the request for the supplies as a first constraint, the promise for the supplies identifying a culprit as a cause for the promise for the supplies not satisfying the request for the supplies if the promise for the supplies does not satisfy the request for the supplies;

if the promise for the supplies does not satisfy the request for the supplies, generating a second constraint according to the culprit identified in the promise for the supplies; and

reoptimizing its the second entity's production of the associated with meeting the demand from the third entity using the second constraint generated according to the culprit identified in the promise for the supplies to generate a new request for the supplies if the promise for the supplies does not satisfy the request for the supplies.

4. (Currently amended) The system of Claim 1, wherein:  
the system associated with the first entity is further operable to optimize its the first  
entity's production of the supplies independently of the second entity; and  
the system associated with the second entity is further operable to optimize its the second  
entity's production of the associated with meeting the demand from the third entity independently  
of the first entity.

5. (Currently amended) The system of Claim 1, wherein:  
the request for the supplies comprises a first request for a first supply and a second  
request for a second supply; and  
the promise for the supplies comprises a first promise for the first supply and a second  
promise for the second supply, the promise for the supplies identifying the second supply as the  
culprit if the promise for the supplies does not satisfy the request for the supplies.

6. (Currently amended) The system of Claim 5, wherein:  
the second promise does not satisfy the second request for the second supply, the promise  
for the supplies identifying the second supply as the culprit; and  
the system associated with the second entity is further operable to optimize its the second  
entity's production of the associated with meeting the demand from the third entity to generate a  
new request for the supplies using the second promise for the second supply to generate the  
second constraint.

7. (Currently amended) The system of Claim 1, wherein:

the request for the supplies comprises a bundled request for at least two supplies for the second entity's production associated with meeting to produce the demand from the third entity;

the promise for the supplies in response to the bundled request for the at least two supplies comprises a first promise, a second promise, and the culprit, the culprit identifying the second promise as the cause for the promise for the supplies not satisfying the bundled request for the at least two supplies; and

the system associated with the second entity is operable to reoptimize its the second entity's production associated with meeting the demand from the third entity to generate a new request for the at least two supplies using the second promise to generate the second constraint.

8. (Currently amended) The system of Claim 1, wherein:

the promise for the supplies comprises an optimization objective and a promise constraint; and

the system associated with the second entity is operable to reoptimize its the second entity's production associated with meeting the demand from the third entity to generate a new request for the supplies using the promise constraint and the optimization objective.

9. (Currently amended) The system of Claim 1, wherein the system associated with the second entity is operable to generate a request for the supplies in accordance with one or more internal resources.

10. (Currently amended) The system of Claim 1, wherein the system associated with the second entity is operable to communicate a demand promise associated with meeting the demand from the third party to a client the third entity if the promise for the supplies satisfies the request for the supplies.

11. (Currently amended) A computer-implemented method for optimizing a request-promise workflow, the method performed using a computer system comprising one or more processing units and one or more memory units, the method comprising:

using the computer system, establishing a demand associated with for one or more supplies needed to satisfy the meet a demand from a third party;

using the computer system, assuming that the supplies are unlimited;

using the computer system, optimizing the production of the associated with meeting the demand from the third party to generate a request for the supplies needed to satisfy meet the demand from the third party;

using the computer system, communicating the request for the supplies to a supplier of the supplies;

using the computer system, receiving a promise for the supplies from the supplier, the promise for the supplies having been generated according to an optimization of the supplier's production of the supplies using the request for the supplies as a first constraint, the promise for the supplies identifying a culprit as a cause for the promise for the supplies not satisfying the request for the supplies if the promise for the supplies does not satisfy the request for the supplies;

using the computer system, determining whether the promise for the supplies satisfies the request for the supplies; and

using the computer system, if the promise for the supplies does not satisfy the request for the supplies, generating a second constraint according to the culprit identified in the promise for the supplies and reoptimizing the production of the associated with meeting the demand from the third party using the second constraint generated according to the culprit identified in the promise for the supplies to generate a new request for the supplies for communication to the supplier.

12. (Currently amended) The method of Claim 11, further comprising repeating the following until the promise for the supplies satisfies the request for the supplies:

optimizing the production of the associated with meeting the demand from the third party to generate a request for the supplies needed to satisfy meet the demand from the third party;

communicating the request for the supplies to the supplier;

receiving a promise for the supplies from the supplier, the promise for the supplies identifying a culprit as a cause for the promise for the supplies not satisfying the request for the supplies if the promise for the supplies does not satisfy the request for the supplies;

determining whether the promise for the supplies satisfies the request for the supplies; and

if the promise for the supplies does not satisfy the request for the supplies, generating a constraint according to the culprit identified in the promise for the supplies and reoptimizing the production of the associated with meeting the demand from the third party in accordance with the constraint to generate a new request for the supplies for communication to the supplier.

13. (Currently amended) The method of Claim 11, wherein:

the request for the supplies comprises a first request for a first supply and a second request for a second supply; and

the promise for the supplies comprises a first promise for the first supply and a second promise for the second supply, the promise for the supplies identifying the second supply as the culprit identified in the promise for the supplies if the promise for the supplies does not satisfy the request for the supplies.

14. (Currently amended) The method of Claim 13, wherein:

the second promise does not satisfy the second request for the second supply, the promise for the supplies identifying the second supply as the culprit; and

reoptimizing the production of the associated with meeting the demand from the third party to generate a new request for the supplies further comprises using the second promise for the second supply to generate the constraint.

15. (Currently amended) The method of Claim 11, wherein:

the request for the supplies comprises a bundled request comprising a first request for a first supply and a second request for a second supply; and

the promise for the supplies comprises a first promise for the first supply, a second promise for the second supply, and the culprit, the culprit identifying the second promise for the second supply as the cause for the promise for the supplies not satisfying the bundled request.

16. (Currently amended) The method of Claim 15, wherein reoptimizing the production of the demand to generate a new request for the supplies further comprises using the second promise for the second supply to generate the constraint.

17. (Currently amended) The method of Claim 15, wherein the bundled request comprises the supplies required for meeting one unit of the demand from the third party.

18. (Currently amended) The method of Claim 11, wherein:

the promise for the supplies comprises an optimization objective and a promise constraint; and

reoptimizing the production of the associated with meeting the demand from the third party to generate a new request for the supplies further comprises reoptimizing using the promise constraint and the optimization objective.

19. (Currently amended) The method of Claim 11, wherein:

optimizing the production of the associated with meeting the demand from the third party to generate a request for the supplies needed to satisfy meet the demand from the third party further comprises generating the request for the supplies in accordance with one or more internal resources; and

reoptimizing the production of the associated with meeting the demand from the third party to generate a new request for the supplies further comprises generating the new request for the supplies in accordance with the one or more internal resources.

20. (Currently amended) The method of Claim 11, wherein determining whether the promise for the supplies satisfies the request for the supplies comprises determining whether the promise for the supplies falls within an acceptable range.

21. (Currently amended) The method of Claim 11, further comprising communicating a demand promise associated with meeting the demand from the third party to a client the third party if the promise for the supplies satisfies the request for the supplies.

22. (Currently amended) A computer-implemented method for optimizing a request-promise workflow, the method performed using a computer system comprising one or more processing units and one or more memory units, the method comprising:

using the computer system, establishing a demand associated with for one or more supplies needed to satisfy the meet a demand from a third party;

using the computer system, assuming that the supplies are unlimited;

using the computer system, optimizing the production of the associated with meeting the demand from the third party to generate a first request for a first supply and a second request for a second supply needed to satisfy the demand from the third party;

using the computer system, communicating the first request for the first supply to a first supplier;

using the computer system, communicating the second request for the second supply to a second supplier;

using the computer system, receiving a first promise for the first supply from the first supplier, the first promise for the first supply identifying a first culprit as a cause for the first promise for the first supply not satisfying the first request for the first supply if the first promise for the first supply does not satisfy the first request for the first supply;

using the computer system, receiving a second promise for the second supply from the second supplier, the second promise for the second supply identifying a second culprit as a cause for the second promise for the second supply not satisfying the second request for the second supply if the second promise for the second supply does not satisfy the second request for the second supply;

using the computer system, determining whether the first promise for the first supply satisfies the first request for the first supply;

using the computer system, determining whether the second promise for the second supply satisfies the second request for the second supply; and

using the computer system, if the first promise for the first supply does not satisfy the first request for the first supply or the second promise for the second supply does not satisfy the second request for the second supply, generating a constraint according to the first culprit identified in the first promise for the first supply or the second culprit identified in the second promise for the second supply, respectively, and reoptimizing the production of the associated

with meeting the demand from the third party in accordance with the constraint to generate a new first request for the first supply and a new second request for the second supply.

23. (Currently amended) The method of Claim 22, further comprising repeating the following until the first promise for the first supply satisfies the first request for the first supply and the second promise for the second supply satisfies the second request for the second supply:

optimizing the production ~~of the~~ associated with meeting the demand from the third party to generate a first request for a first supply and a second request for a second supply needed to satisfy meet the demand from the third party;

communicating the first request for the first supply to the first supplier;

communicating the second request for the second supply to the second supplier;

receiving a first promise for the first supply from the first supplier, the first promise for the first supply identifying a first culprit as a cause for the first promise for the first supply not satisfying the first request for the first supply if the first promise for the first supply does not satisfy the first request for the first supply;

receiving a second promise for the second supply from the second supplier, the second promise for the second supply identifying a second culprit as a cause for the second promise for the second supply not satisfying the second request for the second supply if the second promise for the second supply does not satisfy the second request for the second supply;

determining whether the first promise for the first supply satisfies the first request for the first supply;

determining whether the second promise for the second supply satisfies the second request for the second supply; and

if the first promise for the first supply does not satisfy the first request for the first supply or the second promise for the second supply does not satisfy the second request for the second supply, generating a constraint according to the first culprit identified in the first promise for the first supply or the second culprit identified in the second promise for the second supply, respectively, and reoptimizing the production ~~of the~~ associated with meeting the demand from the third party in accordance with the constraint to generate a new first request for the first supply and a new second request for the second supply.

24. (Currently amended) The method of Claim 22, wherein:  
the second promise for the second supply does not satisfy the second request for the second supply, the second promise for the second supply identifying the second culprit; and  
reoptimizing the production of the associated with meeting the demand from the third party to generate a new first request for the first supply and a new second request for the second supply further comprises using the second promise for the second supply to generate the constraint.

25. (Currently amended) The method of Claim 22, wherein the request for the supplies comprises a bundled request for one or more supplies required for meeting one unit of the demand from the third party.

26. (Currently amended) The method of Claim 25, wherein the request for the supplies further comprises a sub-bundled request for the supplies supplied by the first supplier.

27. (Currently amended) The method of Claim 26, further comprising:  
receiving a first promise for the first supply from the first supplier, the first promise for the first supply comprising the first culprit identifying a culprit promise that does not satisfy the sub-bundled request; and  
reoptimizing the production of the associated with meeting the demand from the third party to generate a new first request for the first supply and a new second request for the second supply using the culprit promise to generate the constraint.

28. (Currently amended) The method of Claim 26, further comprising:  
receiving a first promise for the first supply from the first supplier, the first promise for the first supply comprising a first culprit promise that does not satisfy a first sub-bundled request;  
receiving a second promise for the second supply from the second supplier, the second promise for the second supply comprising a second culprit promise that does not satisfy a second sub-bundled request, the second sub-bundled promise being larger than the first sub-bundled promise;

reoptimizing the production ~~of the associated with meeting the demand from the third party~~ to generate a new first request for the first supply and a new second request for the second supply using the first culprit promise to generate the constraint.

29. (Currently amended) The method of Claim 22, wherein:  
the first promise for the first supply comprises an optimization objective and a promise constraint; and  
reoptimizing the production ~~of the associated with meeting the demand from the third party~~ to generate a new first request for the first supply and a new second request for the second supply further comprises reoptimizing using the promise constraint and the optimization objective.

30. (Currently amended) The method of Claim 22, wherein:  
optimizing the production ~~of the associated with meeting the demand from the third party~~ to generate a first request for a first supply and a second request for a second supply needed to ~~satisfy meet~~ the demand from the third party further comprises generating the first request for the first supply in accordance with one or more internal resources; and  
reoptimizing the production ~~of the associated with meeting the demand from the third party~~ to generate a new first request for the first supply and a new second request for the second supply further comprises generating the new first request for the first supply and a new second request for the second supply in accordance with the one or more internal resources.

31. (Currently amended) The method of Claim 22, wherein determining whether the first promise for the first supply satisfies the first request for the first supply comprises determining whether the first promise for the first supply falls within an acceptable range.

32. (Currently amended) The method of Claim 22, further comprising communicating a demand promise associated with meeting the demand from the third party to a client the third party if the first promise for the first supply satisfies the first request for the first supply and the second promise for the second supply satisfies the second request for the second supply.

33. (Currently amended) A system for optimizing a request-promise workflow between a first entity and a second entity downstream from the first entity, the first entity supplying supplies to a second entity in response to demand for the second entity, the system being associated with the second entity and comprising one or more software components embodied in computer readable media and when executed processing units and one or more memory units collectively operable to:

establish a demand associated with for one or more supplies needed to satisfy the meet a demand placed on the second entity by a third entity downstream from the second entity;

assume that the supplies are unlimited;

optimize production of the associated with meeting the demand from the third entity to generate a first request for a first supply and a second request for a second supply needed to satisfy meet the demand from the third entity;

communicate the first request for the first supply to a first supplier;

communicate the second request for the second supply to a second supplier;

receive a first promise for the first supply from the first supplier, the first promise for the first supply identifying a first culprit as a cause for the first promise for the first supply not satisfying the first request for the first supply if the first promise for the first supply does not satisfy the first request for the first supply;

receive a second promise for the second supply from the second supplier, the second promise for the second supply identifying a second culprit as a cause for the second promise for the second supply not satisfying the second request for the second supply if the second promise for the second supply does not satisfy the second request for the second supply;

determine whether the first promise for the first supply satisfies the first request for the first supply;

determine whether the second promise for the second supply satisfies the second request for the second supply; and

if the first promise for the first supply does not satisfy the first request for the first supply or the second promise for the second supply does not satisfy the second request for the second supply, generate a constraint according to the first culprit identified in the first promise for the first supply or the second culprit identified in the second promise for the second supply, respectively, and reoptimize the production of the associated with meeting the demand from the

third entity in accordance with the constraint to generate a new first request for the first supply and a new second request for the second supply.

34. (Currently amended) The system of Claim 33, operable to repeat the following until the first promise for the first supply satisfies the first request for the first supply and the second promise for the second supply satisfies the second request for the second supply:

optimizing production ~~of the~~ associated with meeting the demand from the third entity to generate a first request for a first supply and a second request for a second supply needed to satisfy meet the demand from the third entity;

communicating the first request for the first supply to the first supplier;

communicating the second request for the second supply to the second supplier;

receiving a first promise for the first supply from the first supplier, the first promise for the first supply identifying a first culprit as a cause for the first promise for the first supply not satisfying the first request for the first supply if the first promise for the first supply does not satisfy the first request for the first supply;

receiving a second promise for the second supply from the second supplier, the second promise for the second supply identifying a second culprit as a cause for the second promise for the second supply not satisfying the second request for the second supply if the second promise for the second supply does not satisfy the second request for the second supply;

determining whether the first promise for the first supply satisfies the first request for the first supply;

determining whether the second promise for the second supply satisfies the second request for the second supply; and

if the first promise for the first supply does not satisfy the first request for the first supply or the second promise for the second supply does not satisfy the second request for the second supply, generating a constraint according to the first culprit identified in the first promise for the first supply or the second culprit identified in the second promise for the second supply, respectively, and reoptimizing the production ~~of the~~ associated with meeting the demand from the third entity in accordance with the constraint to generate a new first request for the first supply and a new second request for the second supply.

35. (Currently amended) The system of Claim 33, wherein:  
the second promise for the second supply does not satisfy the second request for the second supply, the second promise for the second supply identifying the second culprit; and  
reoptimizing the production of the associated with meeting the demand from the third entity to generate a new first request for the first supply and a new second request for the second supply further comprises using the second promise for the second supply to generate the constraint.

36. (Currently amended) The system of Claim 33, wherein the request for the supplies comprises a bundled request for one or more supplies required for meeting one unit of the demand from the third entity.

37. (Currently amended) The system of Claim 36, wherein the request for the supplies further comprises a sub-bundled request for the supplies supplied by the first supplier.

38. (Currently amended) The system of Claim 37, further operable to:  
receive a first promise for the first supply from the first supplier, the first promise for the first supply comprising the first culprit identifying a culprit promise that does not satisfy the sub-bundled request; and  
reoptimize the production of the demand to generate a new first request for the first supply and a new second request for the second supply using the culprit promise to generate the constraint.

39. (Currently amended) The system of Claim 37, further operable to:  
receive a first promise for the first supply from the first supplier, the first promise for the first supply comprising a first culprit promise that does not satisfy a first sub-bundled request;  
receive a second promise for the second supply from the second supplier, the second promise for the second supply comprising a second culprit promise that does not satisfy a second sub-bundled request, the second sub-bundled promise being larger than the first sub-bundled promise;  
reoptimize the production of the associated with meeting the demand from the third entity to generate a new first request for the first supply and a new second request for the second supply using the first culprit promise to generate the constraint.

40. (Currently amended) The system of Claim 33, further operable to reoptimize production of the associated with meeting the demand from the third entity to generate a new first request for the first supply and a new second request for the second supply by reoptimizing using a promise constraint and an optimization objective, the first promise for the first supply comprising the optimization objective and the promise constraint.

41. (Currently amended) The system of Claim 33, further operable to:  
optimize the production of the associated with meeting the demand from the third entity to generate a first request for a first supply and a second request for a second supply needed to satisfy meet the demand from the third entity by generating the first request for the first supply in accordance with one or more internal resources; and  
reoptimize the production of the associated with meeting the demand from the third entity to generate a new first request for the first supply and a new second request for the second supply by generating the new first request for the first supply and a new second request for the second supply in accordance with the one or more internal resources.

42. (Currently amended) The system of Claim 33, further operable to determine whether the first promise for the first supply satisfies the first request for the first supply by determining whether the first promise for the first supply falls within an acceptable range.

43. (Currently amended) The system of Claim 33, further operable to communicate a demand promise associated with meeting the demand from the third entity to a client the third entity if the first promise for the first supply satisfies the first request for the first supply and the second promise for the second supply satisfies the second request for the second supply.

44. (Currently amended) Software for optimizing a request-promise workflow, the software embodied in computer-readable media and when executed operable to:

establish a demand associated with for one or more supplies needed to satisfy the meet a demand from a third party;

assume that the supplies are unlimited;

optimize production of the associated with meeting the demand from the third party to generate a request for the supplies needed to satisfy meet the demand from the third party;

communicate the request for the supplies to a supplier;

receive a promise for the supplies from the supplier, the promise for the supplies identifying a culprit as a cause for the promise for the supplies not satisfying the request for the supplies if the promise for the supplies does not satisfy the request for the supplies;

determine whether the promise for the supplies satisfies the request for the supplies; and

if the promise for the supplies does not satisfy the request for the supplies, generate a constraint according to the culprit identified in the promise for the supplies and reoptimize the production of the associated with meeting the demand from the third party using the constraint generated according to the culprit identified in the promise for the supplies to generate a new request for the supplies for communication to the supplier.

45. (Currently amended) Software for optimizing a request-promise workflow, the software embodied in computer-readable media and when executed operable to:

establish a demand ~~associated with~~ for one or more supplies needed to ~~satisfy the~~ meet a demand from a third party;

assume that the supplies are unlimited;

optimize production ~~of the~~ associated with meeting the demand from the third party to generate a first request for a first supply and a second request for a second supply needed to satisfy meet the demand from the third party;

communicate the first request for the first supply to a first supplier;

communicate the second request for the second supply to a second supplier;

receive a first promise for the first supply from the first supplier, the first promise for the first supply identifying a first culprit as a cause for the first promise for the first supply not satisfying the first request for the first supply if the first promise for the first supply does not satisfy the first request for the first supply;

receive a second promise for the second supply from the second supplier, the second promise for the second supply identifying a second culprit as a cause for the second promise for the second supply not satisfying the second request for the second supply if the second promise for the second supply does not satisfy the second request for the second supply;

determine whether the first promise for the first supply satisfies the first request for the first supply;

determine whether the second promise for the second supply satisfies the second request for the second supply; and

if the first promise for the first supply does not satisfy the first request for the first supply or the second promise for the second supply does not satisfy the second request for the second supply, generate a constraint according to the first culprit identified in the first promise for the first supply or the second culprit identified in the second promise for the second supply, respectively, and reoptimize the production ~~of the~~ associated with meeting the demand from the third party in accordance with the constraint to generate a new first request for the first supply and a new second request for the second supply.

46. (Currently amended) A system for optimizing a request-promise workflow, the method comprising:

means for establishing a demand ~~associated with~~ for one or more supplies needed to satisfy ~~the~~ meet ~~a~~ the demand ~~from a third party~~;

means for assuming that the supplies are unlimited;

means for optimizing the production ~~of the~~ associated with meeting the demand ~~from the~~ third party to generate a request for the supplies needed to ~~satisfy~~ meet the demand ~~from the~~ third party;

means for communicating the request for the supplies to a supplier;

means for receiving a promise for the supplies from the supplier, the promise for the supplies identifying a culprit as a cause for the promise for the supplies not satisfying the request for the supplies if the promise for the supplies does not satisfy the request for the supplies;

means for determining whether the promise for the supplies satisfies the request for the supplies; and

if the promise for the supplies does not satisfy the request for the supplies, means for generating a constraint according to the culprit identified in the promise for the supplies and reoptimizing the production ~~of the~~ associated with meeting the demand ~~from the~~ third party using the constraint generated according to the ~~constraint~~ culprit identified in the promise for the supplies to generate a new request for the supplies for communication to the supplier.

47. (Currently amended) A method for optimizing a request-promise workflow, the method performed using a computer system comprising one or more processing units and one or more memory units, the method comprising:

using the computer system, establishing a demand associated with one or more supplies needed to satisfy the meet a demand from a third party;

using the computer system, assuming that the supplies are unlimited;

using the computer system, repeating the following until the promise for the supplies satisfies the request for the supplies:

optimizing the production of the associated with meeting the demand from the third party to generate a request for the supplies needed to satisfy meet the demand from the third party, the request for the supplies comprising a first request for a first supply and a second request for a second supply;

communicating the request for the supplies to a supplier;

receiving a promise for the supplies from the supplier, the promise for the supplies comprises a first promise for the first supply and a second promise for the second supply, the promise for the supplies identifying a culprit comprising the second supply as a cause for the promise for the supplies not satisfying the request for the supplies if the promise for the supplies does not satisfy the request for the supplies, the promise for the supplies comprising an optimization objective and a promise constraint;

determining whether the promise for the supplies satisfies the request for the supplies; and

if the promise for the supplies does not satisfy the request for the supplies, generating a constraint according to the culprit identified in the promise for the supplies and reoptimizing the production of the associated with meeting the demand from the third party in accordance with the constraint, the promise constraint, and the optimization objective to generate a new request for the supplies for communication to the supplier.